



SEQUENCE LISTING

(1) GENERAL INFORMATION:

- (i) APPLICANT: HAWLEY-NELSON, PAMELA
LAN, JIANQING
SHIH, POJEN
JESSE, JOEL A.
SCHIFFERLI, KEVIN P.
GEBEYEHU, GULILAT
CICCARONE, Valentina C.
EVANS, Krista L.
- (ii) TITLE OF INVENTION: PEPTIDE-ENHANCED TRANSFECTIONS
- (iii) NUMBER OF SEQUENCES: 122
- (iv) CORRESPONDENCE ADDRESS:
 - (A) ADDRESSEE: GREENLEE, WINNER & SULLIVAN
 - (B) STREET: 4875 Pearl East Circle, Suite 200
 - (C) CITY: BOULDER
 - (D) STATE: CO
 - (E) COUNTRY: US
 - (F) ZIP: 80301
- (v) COMPUTER READABLE FORM:
 - (A) MEDIUM TYPE: Floppy disk
 - (B) COMPUTER: IBM PC compatible
 - (C) OPERATING SYSTEM: PC-DOS/MS-DOS
 - (D) SOFTWARE: PatentIn Release #1.0, Version #1.30
- (vi) CURRENT APPLICATION DATA:
 - (A) APPLICATION NUMBER: US 09/911,569
 - (B) FILING DATE: 23-JUL-2001
 - (C) CLASSIFICATION:
- (vii) PRIOR APPLICATION DATA:
 - (A) APPLICATION NUMBER: US 09/039,780
 - (B) FILING DATE: 16-MAR-1998
 - (C) CLASSIFICATION:
- (viii) ATTORNEY/AGENT INFORMATION:
 - (A) NAME: SULLIVAN, SALLY A.
 - (B) REGISTRATION NUMBER: 32,064
 - (C) REFERENCE/DOCKET NUMBER: 32-95D
- (ix) TELECOMMUNICATION INFORMATION:
 - (A) TELEPHONE: (303)499-8080
 - (B) TELEFAX: (303)499-8089

(2) INFORMATION FOR SEQ ID NO:1:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 10 amino acids
 - (B) TYPE: amino acid

(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

His	Ala	Ile	Arg	Gly	Asp	Thr	Phe	Ala	Thr
1				5					10

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 7 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

Pro	Lys	Lys	Lys	Arg	Lys	Val
1				5		

(2) INFORMATION FOR SEQ ID NO:3:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 8 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

Pro Lys Lys Lys Lys Arg Lys Val
1 5

(2) INFORMATION FOR SEQ ID NO:4:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 2..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "ANY OR ALL OF THE AMINO ACIDS 2-20 CAN BE PRESENT OR ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys
1 5 10 15
Lys Lys Lys Lys
20

(2) INFORMATION FOR SEQ ID NO:5:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 2..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "ANY OR ALL OF THE AMINO ACIDS 2-20 CAN BE PRESENT OR ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg
1 5 10 15

Arg Arg Arg Arg
20

(2) INFORMATION FOR SEQ ID NO:6:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 40 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 3..40
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "ANY Lys-Arg PAIR FROM AMINO ACID 3-40 CAN BE PRESENT OR ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

Lys Arg Lys Arg Lys Arg Lys Arg Lys Arg Lys Arg Lys Arg Lys Arg
1 5 10 15

Lys Arg Lys Arg Lys Arg Lys Arg Lys Arg Lys Arg Lys Arg Lys Arg
20 25 30

Lys Arg Lys Arg Lys Arg Lys Arg
35 40

(2) INFORMATION FOR SEQ ID NO:7:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 2..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "ANY OR ALL OF THE AMINO ACIDS 2-20 CAN BE PRESENT OR ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
1 5 10 15

Gly Gly Gly Gly
20

(2) INFORMATION FOR SEQ ID NO:8:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 7 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

Gly Arg Gly Asp Ser Pro Cys
1 5

(2) INFORMATION FOR SEQ ID NO:9:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 23 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "ANY OR ALL OF THE AMINO ACIDS 1-20 CAN BE PRESENT OR
ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys
1 5 10 15

Lys Lys Lys Lys Arg Gly Asp
20

(2) INFORMATION FOR SEQ ID NO:10:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 19 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: not relevant
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

Lys	Lys	Lys	Lys	Lys	Lys	Lys	Lys	Lys	Lys	Lys	Lys	Lys	Lys	Lys	Lys	Lys
1				5					10						15	

Arg Gly Asp

(2) INFORMATION FOR SEQ ID NO:11:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 7 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: not relevant
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

Lys	Phe	Thr	Ile	Val	Phe	Cys
1				5		

(2) INFORMATION FOR SEQ ID NO:12:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 12 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: not relevant
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

Cys Gly Trp Gly Pro Lys Lys Lys Arg Lys Val Gly
1 5 10

(2) INFORMATION FOR SEQ ID NO:13:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 26 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

Gly Gly Tyr Gly Pro Lys Lys Lys Arg Lys Val Gly Gly Gly Gly Tyr
1 5 10 15

Gly Pro Lys Lys Lys Arg Lys Val Gly Gly
20 25

(2) INFORMATION FOR SEQ ID NO:14:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 6 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

Arg Gly Asp Ser Pro Cys
1 5

(2) INFORMATION FOR SEQ ID NO:15:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 4 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: not relevant
 - (D) TOPOLOGY: linear
 - (ii) MOLECULE TYPE: peptide
 - (iii) HYPOTHETICAL: NO
 - (iv) ANTI-SENSE: NO
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:
- Arg Glu Asp Val
1

(2) INFORMATION FOR SEQ ID NO:16:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 4 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: not relevant
 - (D) TOPOLOGY: linear
 - (ii) MOLECULE TYPE: peptide
 - (iii) HYPOTHETICAL: NO
 - (iv) ANTI-SENSE: NO
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:
- Arg Gly Asp Val
1

(2) INFORMATION FOR SEQ ID NO:17:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 25 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: not relevant
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

Asp	Glu	Leu	Pro	Gln	Leu	Val	Thr	Leu	Pro	His	Pro	Asn	Leu	His	Gly
1				5				10					15		
Pro	Glu	Ile	Leu	Asp	Val	Pro	Ser	Thr							
			20					25							

(2) INFORMATION FOR SEQ ID NO:18:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 4 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

Arg	Gly	Asp	Asn
1			

(2) INFORMATION FOR SEQ ID NO:19:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 4 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

Arg	Gly	Asp	Met
1			

(2) INFORMATION FOR SEQ ID NO:20:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 4 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: not relevant
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

Arg Gly Asp Thr
1

(2) INFORMATION FOR SEQ ID NO:21:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 4 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: not relevant
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
 - (B) LOCATION: 4
 - (D) OTHER INFORMATION: /product= "OTHER"
- /note= "Xaa AT POSITION 4 CAN BE ANY AMINO ACID"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

Arg Gly Asp Xaa
1

(2) INFORMATION FOR SEQ ID NO:22:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 4 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: not relevant
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:

Arg Gly Asp Ser
1

(2) INFORMATION FOR SEQ ID NO:23:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 4 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:

Arg Gly Asp Ala
1

(2) INFORMATION FOR SEQ ID NO:24:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 33 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "C AT POSITION 1 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 3
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 3 CAN BE TYR OR TRP OR CAN BE ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 14..33
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "ANY OR ALL OF THE GLY AT POSITIONS 14 TO 33 CAN BE
 ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

Cys Gly Xaa Gly Pro Lys Lys Lys Arg Lys Val Gly Gly Gly Gly Gly
 1 5 10 15
 Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
 20 25 30
 Gly

(2) INFORMATION FOR SEQ ID NO:25:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 48 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 1..20
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS AND ANY OR
 ALL OF THESE AMINO ACIDS CAN BE ABSENT "

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 28
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "Xaa AT POSITION 28 CAN BE TYR OR TRP OR CAN BE ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 29..48
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "Xaa AT POSITIONS 29-48 CAN BE ANY AMINO ACIDS OR CAN BE
 ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 1 5 10 15

Xaa Xaa Xaa Xaa Pro Lys Lys Lys Arg Lys Val Xaa Xaa Xaa Xaa Xaa
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
35 40 45

(2) INFORMATION FOR SEQ ID NO:26:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 90 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR ANY OF THESE AMINO ACIDS CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITON 21 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 22
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 22 CAN BE TYR OR TRP OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 23..42
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 23-42 CAN BE ANY AMINO ACIDS OR ANY OF THESE AMINO ACIDS CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 50
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 50 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 51..70
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 51 TO 79 CAN BE ANY AMINO ACIDS OR ANY OF THESE AMINO ACIDS CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 71..90

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 71-90 CAN BE ANY CATIONIC AMINO ACIDS
OR ANY OF THESE AMINO ACIDS CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Pro Lys Lys Lys Arg Lys
35 40 45

Val Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
50 55 60

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
65 70 75 80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
85 90

(2) INFORMATION FOR SEQ ID NO:27:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 70 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 1 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 2..21

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 2-21 CAN BE ANY AMINO ACIDS OR ANY OF
THESE AMNION ACIDS CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 22

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 22 CAN BE TYR OR TRP OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 23..42

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 23 TO 42 CAN BE ANY AMINO ACIDS OR ANY OF THESE AMINO ACIDS CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 50..69

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 50 TO 69 CAN BE ANY AMINO ACIDS OR ANY OF THESE AMINO ACIDS CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 70

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 70 CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
1				5				10						15	

Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
				20				25						30	

Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Pro	Lys	Lys	Lys	Arg	Lys
				35				40					45		

Val	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
								50					55		60

Xaa	Xaa	Xaa	Xaa	Xaa	Cys
					70

(2) INFORMATION FOR SEQ ID NO:28:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 90 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 1 CAN BE ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 2..21
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "Xaa AT POSITIONS 2-21 CAN BE ANY AMINO ACIDS OR ANY OF
 THESE AMINO ACIDS CAN BE ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 22
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "Xaa AT POSITION 22 CAN BE TYR OR TRP OR CAN BE ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 23..42
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "Xaa AT POSITIONS 23-42 CAN BE ANY AMINO ACIDS OR CAN BE
 ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 50
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "CYS AT POSITION 50 CAN BE ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 51..70
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "Xaa AT POSITIONS 51 TO 70 CAN BE ANY AMINO ACIDS AND CAN
 BE ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 71..90
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "Xaa AT POSITIONS 71-90 CAN BE ANY CATIONIC AMINO ACIDS
 OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:

Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
1				5				10							15	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
				20				25							30	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Pro	Lys	Lys	Lys	Arg	Lys	
				35				40					45			
Val	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
	50						55						60			
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
65							70						75			80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
85 90

(2) INFORMATION FOR SEQ ID NO:29:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 90 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY CATIONIC AMINO ACIDS OR
CAN BE AB..."

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21..40
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 21 TO 40 CAN BE ANY AMINO ACIDS OR CAN
BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 41
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 41 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 42
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 42 CAN BE TYR OT TRP OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 43..62
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 43 TO 62 CAN BE ANY AMINO ACIDS OR CAN
BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 70..89
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 70 TO 89 CAN BE ANY AMINO ACIDS OR CAN
BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site

(B) LOCATION: 90
(D) OTHER INFORMATION: /product= "OTHER"
/note= "CYS AT POSITION 90 CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:

Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
1				5					10					15	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
				20					25					30	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
				35				40					45		
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Pro	Lys
				50				55					60		
Lys	Lys	Arg	Lys	Val	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
65				70						75					80
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Cys					
				85						90					

(2) INFORMATION FOR SEQ ID NO:30:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 90 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY CATIONIC AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21..40
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 21 TO 40 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 41
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 41 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site
 (B) LOCATION: 42
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "Xaa AT POSITION 42 CAN BE TYR OR TRP OR CAN BE ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 43..62
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "Xaa AT POSITIONS 43 TO 62 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 70
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "CYS AT POSITION 70 CAN BE ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 71..90
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "Xaa AT POSITIONS 71 TO 90 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:

Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	1	5	10	15
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	20	25	30	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	35	40	45	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Pro	Lys	50	55	60	
Lys	Lys	Arg	Lys	Val	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	65	70	75	80
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	85	90		

(2) INFORMATION FOR SEQ ID NO:31:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 5 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:

Arg Gly Asp Ser Pro
1 5

(2) INFORMATION FOR SEQ ID NO:32:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 69 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE AB..."

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21..40
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 21-40 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 41
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 41 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 42
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "GLY AT POSITION 42 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 48
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "GLY AT POSITION 48 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 49
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 49 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site
(B) LOCATION: 50..69
(D) OTHER INFORMATION: /product= "OTHER"
/note= "Xaa AT POSITIONS 50-69 CAN BE ANY AMINO ACIDS OR CAN BE
ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:

Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
1				5					10					15	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
				20					25					30	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Cys	Gly	Arg	Gly	Asp	Ser	Pro	Gly
				35					40				45		
Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
				50					55					60	
Xaa	Xaa	Xaa	Xaa	Xaa											
				65											

(2) INFORMATION FOR SEQ ID NO:33:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 69 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site
(B) LOCATION: 1..20
(D) OTHER INFORMATION: /product= "OTHER"
/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR CAN BE
ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site
(B) LOCATION: 21
(D) OTHER INFORMATION: /product= "OTHER"
/note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site
(B) LOCATION: 22
(D) OTHER INFORMATION: /product= "OTHER"
/note= "GLY AT POSITION 22 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site
(B) LOCATION: 28

(D) OTHER INFORMATION: /product= "OTHER"
/note= "GLY AT POSITION 28 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 29

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 29 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 30..49

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 30-49 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 50..69

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 50 -69 CAN BE ANY CATIONIC AMINO ACIDS"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Cys Gly Arg Gly Asp Ser Pro Gly Cys Xaa Xaa Xaa
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
35 40 45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
50 55 60

Xaa Xaa Xaa Xaa Xaa
65

(2) INFORMATION FOR SEQ ID NO:34:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 69 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE AB..."

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 21..40
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "Xaa AT POSITIONS 21-40 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 41
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "CYS AT POSITION 41 CAN BE ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 42
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "GLY AT POSITION 42 CAN BE ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 48
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "GLY AT POSITION 48 CAN BE ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 49..68
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "Xaa AT POSITIONS 49-68 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 69
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "CYS AT POSITION 69 CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:34:

Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
1				5					10					15	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
				20					25					30	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Cys	Gly	Arg	Gly	Asp	Ser	Pro
				35					40				45		
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
				50					55				60		
Xaa	Xaa	Xaa	Xaa	Cys											
65															

(2) INFORMATION FOR SEQ ID NO:35:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 69 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 1 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 2..21
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 2-21 CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 22
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "GLY AT POSITION 22 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 28
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "GLY AT POSITION 28 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 29
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 29 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 30..49
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 30-49 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 50..69
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 50-69 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:35:

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15
Xaa Xaa Xaa Xaa Xaa Gly Arg Gly Asp Ser Pro Gly Cys Xaa Xaa Xaa
20 25 30
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
35 40 45
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
50 55 60
Xaa Xaa Xaa Xaa Xaa
65

(2) INFORMATION FOR SEQ ID NO:36:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:36:

Arg Gly Asp Met Phe
1 5

(2) INFORMATION FOR SEQ ID NO:37:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 49 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
(B) LOCATION: 1..20
(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
(B) LOCATION: 21

(D) OTHER INFORMATION: /product= "OTHER"
/note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 22

(D) OTHER INFORMATION: /product= "OTHER"

/note= "GLY AT POSITION 22 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 28

(D) OTHER INFORMATION: /product= "OTHER"

/note= "GLY AT POSITION 28 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 29

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 29 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 30..49

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 30-49 CAN BE ANY AMINO ACIDS OR CAN BE
ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Cys Gly Arg Gly Asp Met Phe Gly Cys Xaa Xaa Xaa
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
35 40 45

Xaa

(2) INFORMATION FOR SEQ ID NO:38:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 47 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1

(D) OTHER INFORMATION: /product= "OTHER"
/note= "CYS AT POSITION 1 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site
(B) LOCATION: 2..21
(D) OTHER INFORMATION: /product= "OTHER"
/note= "Xaa AT POSITIONS 2-21 CAN BE ANY AMINO ACIDS OR CAN BE
ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site
(B) LOCATION: 27..46
(D) OTHER INFORMATION: /product= "OTHER"
/note= "Xaa AT POSITIONS 27-46 CAN BE ANY AMINO ACIDS OR CAN BE
ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site
(B) LOCATION: 47
(D) OTHER INFORMATION: /product= "OTHER"
/note= "CYS AT POSITION 47 CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:38:

Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
1				5				10					15		
Xaa	Xaa	Xaa	Xaa	Xaa	Arg	Gly	Asp	Met	Phe	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
				20				25					30		
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Cys
				35				40					45		

(2) INFORMATION FOR SEQ ID NO:39:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 69 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site
(B) LOCATION: 1..20
(D) OTHER INFORMATION: /product= "OTHER"
/note= "Xaa AT POSITIONS 1-20 CAN BE ANY CATIONIC AMINO ACIDS OR
CAN BE AB..."

(ix) FEATURE:

(A) NAME/KEY: Modified-site
(B) LOCATION: 21..40

(D) OTHER INFORMATION: /product= "OTHER"
/note= "Xaa AT POSITIONS 21-40 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 41

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 41 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 42

(D) OTHER INFORMATION: /product= "OTHER"

/note= "GLY AT POSITION 42 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 48

(D) OTHER INFORMATION: /product= "OTHER"

/note= "GLY AT POSITION 48 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 49..68

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 49-68 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 69

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 69 CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:39:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Gly Arg Gly Asp Met Phe Gly
35 40 45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
50 55 60

Xaa Xaa Xaa Xaa Cys
65

(2) INFORMATION FOR SEQ ID NO:40:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 69 amino acids

```

        (B) TYPE: amino acid
        (C) STRANDEDNESS: not relevant
        (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:
    (A) NAME/KEY: Modified-site
    (B) LOCATION: 1
    (D) OTHER INFORMATION: /product= "OTHER"
/note= "CYS AT POSITION 1 CAN BE ABSENT"

(ix) FEATURE:
    (A) NAME/KEY: Modified-site
    (B) LOCATION: 2..21
    (D) OTHER INFORMATION: /product= "OTHER"
/note= "Xaa AT POSITIONS 2-21 CAN BE ANY AMINO ACIDS OR CAN BE
ABSENT"

(ix) FEATURE:
    (A) NAME/KEY: Modified-site
    (B) LOCATION: 22
    (D) OTHER INFORMATION: /product= "OTHER"
/note= "GLY AT POSITION 22 CAN BE ABSENT"

(ix) FEATURE:
    (A) NAME/KEY: Modified-site
    (B) LOCATION: 28
    (D) OTHER INFORMATION: /product= "OTHER"
/note= "GLY AT POSITION 28 CAN BE ABSENT"

(ix) FEATURE:
    (A) NAME/KEY: Modified-site
    (B) LOCATION: 29
    (D) OTHER INFORMATION: /product= "OTHER"
/note= "CYS AT POSITION 29 CAN BE ABSENT"

(ix) FEATURE:
    (A) NAME/KEY: Modified-site
    (B) LOCATION: 30..49
    (D) OTHER INFORMATION: /product= "OTHER"
/note= "Xaa AT POSITIONS 30-49 CAN BE ANY AMINO ACIDS OR CAN BE
ABSENT"

(ix) FEATURE:
    (A) NAME/KEY: Modified-site
    (B) LOCATION: 50..69
    (D) OTHER INFORMATION: /product= "OTHER"
/note= "Xaa AT POSITIONS 50-69 CAN BE ANY CATIONIC AMINO ACIDS
OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:40:

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1           5           10           15

```

Xaa Xaa Xaa Xaa Xaa Gly Arg Gly Asp Met Phe Gly Cys Xaa Xaa Xaa
 20 25 30
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 35 40 45
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 50 55 60
 Xaa Xaa Xaa Xaa Xaa
 65

(2) INFORMATION FOR SEQ ID NO:41:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 69 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE AB..."

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21..40
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 21-40 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 41
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 41 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 42
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "GLY AT POSITION 42 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 48
- (D) OTHER INFORMATION: /product= "OTHRE"

/note= "GLY AT POSITION 48 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site
(B) LOCATION: 49
(D) OTHER INFORMATION: /product= "OTHER"
/note= "CYS AT POSITION 49 CAN BE ABSENT"

(ix) FEATURE:
(A) NAME/KEY: Modified-site
(B) LOCATION: 50..69
(D) OTHER INFORMATION: /product= "OTHER"
/note= "Xaa AT POSITIONS 50-69 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:41:

Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
1				5					10					15	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
				20					25					30	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Cys	Gly	Arg	Gly	Asp	Met	Phe
				35					40				45		
Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
				50					55				60		
Xaa	Xaa	Xaa	Xaa	Xaa											
				65											

(2) INFORMATION FOR SEQ ID NO:42:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 69 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:
(A) NAME/KEY: Modified-site
(B) LOCATION: 1..20
(D) OTHER INFORMATION: /product= "OTHER"
/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:
(A) NAME/KEY: Modified-site
(B) LOCATION: 21
(D) OTHER INFORMATION: /product= "OTHER"
/note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:
(A) NAME/KEY: Modified-site

(B) LOCATION: 22
(D) OTHER INFORMATION: /product= "OTHER"
/note= "GLY AT POSITION 22 CAN BE ABSENT"

(ix) FEATURE:
(A) NAME/KEY: Modified-site
(B) LOCATION: 28
(D) OTHER INFORMATION: /product= "OTHER"
/note= "GLY AT POSITION 28 CAN BE ABSENT"

(ix) FEATURE:
(A) NAME/KEY: Modified-site
(B) LOCATION: 29
(D) OTHER INFORMATION: /product= "OTHER"
/note= "CYS AT POSITION 29 CAN BE ABSENT"

(ix) FEATURE:
(A) NAME/KEY: Modified-site
(B) LOCATION: 30..49
(D) OTHER INFORMATION: /product= "OTHER"
/note= "Xaa AT POSITIONS 30-49 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:
(A) NAME/KEY: Modified-site
(B) LOCATION: 50..69
(D) OTHER INFORMATION: /product= "OTHER"
/note= "Xaa AT POSITIONS 50-69 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:42:

Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
1				5					10					15	
Xaa	Xaa	Xaa	Xaa	Cys	Gly	Arg	Gly	Asp	Met	Phe	Gly	Cys	Xaa	Xaa	Xaa
				20				25					30		
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
				35				40					45		
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
				50				55					60		
Xaa	Xaa	Xaa	Xaa	Xaa											
				65											

(2) INFORMATION FOR SEQ ID NO:43:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 67 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 1
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "CYS AT POSITION 1 CAN BE ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 2..21
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "Xaa AT POSITIONS 2-21 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 47..66
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "Xaa AT POSITIONS 47-66 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 67
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "CYS AT POSITION 67 CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:43:

Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
1				5					10						15
Xaa	Xaa	Xaa	Xaa	Xaa	Asp	Glu	Leu	Pro	Gln	Leu	Val	Thr	Leu	Pro	His
				20					25					30	
Pro	Asn	Leu	His	Gly	Pro	Glu	Ile	Leu	Asp	Val	Pro	Ser	Thr	Xaa	Xaa
			35					40					45		
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
			50					55					60		
Xaa	Xaa	Cys													
65															

(2) INFORMATION FOR SEQ ID NO:44:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 87 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 1..20
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "Xaa AT POSITIONS 1-20 CAN BE ANY CATIONIC AMINO ACID OR
 CAN BE ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 21..40
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "Xaa AT POSITIONS 21-40 CAN BE ANY AMINO ACIDS OR CAN BE
 ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 41
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "CYS AT POSITION 41 CAN BE ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 67..86
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "Xaa AT POSITIONS 67-86 CAN BE ANY AMINO ACIDS OR CAN BE
 ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 87
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "CYS AT POSITION 87 CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:44:

Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	1	5	10	15
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	20	25	30	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Cys	Asp	Glu	Leu	Pro	Gln	Leu	Val	35	40	45	
Thr	Leu	Pro	His	Pro	Asn	Leu	His	Gly	Pro	Glu	Ile	Leu	Asp	Val	Pro	50	55	60	
Ser	Thr	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	65	70	75	80
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Cys									85			

(2) INFORMATION FOR SEQ ID NO:45:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 87 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 1..20
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "Xaa AT POSITIONS 1-20 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE AB..."

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 21..40
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "Xaa AT POSITIONS 21-40 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 41
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "CYS AT POSTION 41 CAN BE ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 67
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "CYS AT POSITION 67 CAN BE ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 68..87
 (D) OTHER INFORMATION: /product= "OTHER"
 /note= "Xaa AT POSITIONS 68-87 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:45:

Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
1				5					10					15	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
				20					25					30	
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Cys	Asp	Glu	Leu	Pro	Gln	Leu	Val
				35					40					45	
Thr	Leu	Pro	His	Pro	Asn	Leu	His	Gly	Pro	Glu	Ile	Leu	Asp	Val	Pro
				50					55					60	
Ser	Thr	Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa

65

70

75

80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa
85

(2) INFORMATION FOR SEQ ID NO:46:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 87 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 1 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 2..21
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 2-21 CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 47
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 47 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 48..67
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 48-67 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 68..87
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 68-87 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:46:

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Asp Glu Leu Pro Gln Leu Val Thr Leu Pro His

20					25					30					
Pro	Asn	Leu	His	Gly	Pro	Glu	Ile	Leu	Asp	Val	Pro	Ser	Thr	Cys	Xaa
		35					40					45			
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
	50					55						60			
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
65						70						75			80
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa									
				85											

(2) INFORMATION FOR SEQ ID NO:47:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 87 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- ```
(A) NAME/KEY: Modified-site
(B) LOCATION: 1..20
(D) OTHER INFORMATION: /product= "OTHER"
```

```
/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR CAN BE
ABSENT"
```

(ix) FEATURE:

- (A) NAME/KEY: Modified-site  
(B) LOCATION: 21  
(D) OTHER INFORMATION: /product= "OTHER"

```
/note= "CYS AT POSITION 21 CAN BE ABSENT"
```

(ix) FEATURE:

- ```
(A) NAME/KEY: Modified-site
(B) LOCATION: 47
(D) OTHER INFORMATION: /product= "OTHER"
```

```
/note= "CYS AT POSITION 47 CAN BE ABSENT"
```

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
(B) LOCATION: 48..67
(D) OTHER INFORMATION: /product= "OTHER"

```
/note= "Xaa AT POSITIONS 48-67 CAN BE ANY AMINO ACIDS OR CAN BE  
ABSENT"
```

(ix) FEATURE:

- ```
(A) NAME/KEY: Modified-site
(B) LOCATION: 68..87
(D) OTHER INFORMATION: /product= "OTHER"
```

```

/NOTE= "Xaa AT POSITIONS 68-87 CAN BE ANY CATIONIC AMNIO ACIDS
OR CAN BE ABSENT"

```

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:47:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15  
Xaa Xaa Xaa Xaa Cys Asp Glu Leu Pro Gln Leu Val Thr Leu Pro His  
20 25 30  
Pro Asn Leu His Gly Pro Glu Ile Leu Asp Val Pro Ser Thr Cys Xaa  
35 40 45  
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60  
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
65 70 75 80  
Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
85

(2) INFORMATION FOR SEQ ID NO:48:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 8 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:48:

Glu Ile Leu Asp Val Pro Ser Thr  
1 5

(2) INFORMATION FOR SEQ ID NO:49:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 50 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 1 CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 21  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 2-21 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 30..49  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 30-49 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 50  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "CYS AT POSITION 50 CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:49:

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Xaa | Xaa | Xaa | Xaa | Xaa | Glu | Ile | Leu | Asp | Val | Pro | Ser | Thr | Xaa | Xaa | Xaa |     |
|     |     |     |     | 20  |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa |
|     |     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Xaa | Cys |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 50  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

(2) INFORMATION FOR SEQ ID NO:50:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 70 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: not relevant  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 1..20  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 1-20 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE AB..."

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 21..40  
 (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 21-40 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 41

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 41 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 50

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 50 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 51..70

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 51-70 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:50:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Glu Ile Leu Asp Val Pro Ser  
35 40 45

Thr Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa Xaa Xaa  
65 70

(2) INFORMATION FOR SEQ ID NO:51:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 70 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE AB..."



(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 21..40  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 21-40 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 41  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "CYS AT POSITION 41 CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 50..69  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 50-69 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 70  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "CYS AT POSITION 70 CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:51:

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 1  | 5  | 10 | 15 |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 20 | 25 | 30 |    |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Cys | Glu | Ile | Leu | Asp | Val | Pro | Ser | 35 | 40 | 45 |    |
| Thr | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 50 | 55 | 60 |    |
| Xaa | Xaa | Xaa | Xaa | Xaa | Cys |     |     |     |     |     |     |     |     |     |     | 65 | 70 |    |    |

(2) INFORMATION FOR SEQ ID NO:52:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 70 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: not relevant  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 1  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "CYS AT POSITION 1 CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 2..21  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 2-21 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 30  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "CYS AT POSITION 30 CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 31..50  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 31-50 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 51..70  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 51-70 AN BE ANY CATIONIC AMINO ACIDS OR CAN BE AB..."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:52:

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|
| Cys | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 1  | 5  | 10 | 15 |
| Xaa | Xaa | Xaa | Xaa | Xaa | Glu | Ile | Leu | Asp | Val | Pro | Ser | Thr | Cys | Xaa | Xaa | 20 | 25 | 30 |    |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 35 | 40 | 45 |    |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 50 | 55 | 60 |    |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa |     |     |     |     |     |     |     |     |     |     | 65 | 70 |    |    |

(2) INFORMATION FOR SEQ ID NO:53:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 70 amino acids

```

 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 1..20
 (D) OTHER INFORMATION: /product= "OTHER"
/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR CAN BE
ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 21
 (D) OTHER INFORMATION: /product= "OTHER"
/note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 30
 (D) OTHER INFORMATION: /product= "OTHER"
/note= "CYS AT POSITION 50 CAN BE ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 31..50
 (D) OTHER INFORMATION: /product= "OTHER"
/note= "Xaa AT POSITIONS 31-50 CAN BE ANY AMINO ACIDS OR CAN BE
ABSENT"

(ix) FEATURE:
 (A) NAME/KEY: Modified-site
 (B) LOCATION: 51..70
 (D) OTHER INFORMATION: /product= "OTHER"
/note= "Xaa AT POSITIONS 51-70 CAN BE ANY CATIONIC AMINO ACIDS
OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:53:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Cys Glu Ile Leu Asp Val Pro Ser Thr Cys Xaa Xaa
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
35 40 45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
50 55 60

Xaa Xaa Xaa Xaa Xaa Xaa
65 70

```

(2) INFORMATION FOR SEQ ID NO:54:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 6 amino acids
  - (B) TYPE: amino acid
  - (C) STRANDEDNESS: not relevant
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:54:

Lys Phe Thr Ile Val Phe  
1 5

(2) INFORMATION FOR SEQ ID NO:55:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 48 amino acids
  - (B) TYPE: amino acid
  - (C) STRANDEDNESS: not relevant
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 1 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 2..21
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 2-21 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 28..47
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 28-47 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 48
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 48 CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:55:

```
Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Lys Phe Thr Ile Val Phe Xaa Xaa Xaa Xaa Xaa
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys
35 40 45
```

(2) INFORMATION FOR SEQ ID NO:56:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 68 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE AB..."

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21..40
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 21-40 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 41
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 41 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 48
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 48 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 49..68
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 49-68 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:56:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15  
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30  
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Lys Phe Thr Ile Val Phe Cys  
35 40 45  
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60  
Xaa Xaa Xaa Xaa  
65

(2) INFORMATION FOR SEQ ID NO:57:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 68 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY CATIONIC AMINO ACID OR  
CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21..40
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 21-40 CAN BE ANY AMINO ACIDS OR CAN BE  
ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 41
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 41 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 48..67
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 48-67 CAN BE ANY AMINO ACIDS OR CAN BE  
ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site

(B) LOCATION: 68  
(D) OTHER INFORMATION: /product= "OTHER"  
/note= "CYS AT POSITION 68 CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:57:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1                      5                      10                      15  
  
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20                      25                      30  
  
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Lys Phe Thr Ile Val Phe Xaa  
35                      40                      45  
  
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50                      55                      60  
  
Xaa Xaa Xaa Cys  
65

(2) INFORMATION FOR SEQ ID NO:58:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 68 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: not relevant  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site  
(B) LOCATION: 1  
(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 1 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site  
(B) LOCATION: 2..21  
(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 2-21 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site  
(B) LOCATION: 28  
(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 28 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site  
(B) LOCATION: 29..48  
(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 29-48 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 49..68

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 49-68 CAN BE ANY CATIONIC AMINO ACIDS  
OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:58:

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Lys Phe Thr Ile Val Phe Cys Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
35 40 45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa  
65

(2) INFORMATION FOR SEQ ID NO:59:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 68 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR CAN BE  
ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 21

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 28

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 28 CAN BE ABSENT"



(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 29..48  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 29-48 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 49..68  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 49-68 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:59:

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Xaa | Xaa | Xaa | Xaa | Cys | Lys | Phe | Thr | Ile | Val | Phe | Cys | Xaa | Xaa | Xaa | Xaa |
|     |     |     |     | 20  |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa |
|     |     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa |
|     |     |     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |
| Xaa | Xaa | Xaa | Xaa |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     |     | 65  |     |     |     |     |     |     |     |     |     |     |     |

(2) INFORMATION FOR SEQ ID NO:60:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 95 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: not relevant  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 1..20  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 21  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site  
 (B) LOCATION: 22  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITION 22 CAN BE TYR OR TRP OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 23..42  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 23-42 ANC BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 50..69  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 50-69 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 75  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "CYS AT POSITION 75 CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 76..95  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 76-95 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:60:

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 1  | 5  | 10 | 15 |
| Xaa | Xaa | Xaa | Xaa | Cys | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 20 | 25 | 30 |    |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Pro | Lys | Lys | Lys | Arg | Lys | 35 | 40 | 45 |    |
| Val | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 50 | 55 | 60 |    |
| Xaa | Xaa | Xaa | Xaa | Xaa | Arg | Gly | Asp | Met | Phe | Cys | Xaa | Xaa | Xaa | Xaa | Xaa | 65 | 70 | 75 | 80 |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 85 | 90 | 95 |    |

(2) INFORMATION FOR SEQ ID NO:61:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 95 amino acids

- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 22..41
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 22-41 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 42
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 42 CAN BE TYR OR TRP OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 50..69
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 50-69 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 75
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 75 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 76..95
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 76-95 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:61:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

|                                                                     |    |    |    |
|---------------------------------------------------------------------|----|----|----|
| 1                                                                   | 5  | 10 | 15 |
| Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa | 20 | 25 | 30 |
| Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Pro Lys Lys Lys Arg Lys     | 35 | 40 | 45 |
| Val Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa | 50 | 55 | 60 |
| Xaa Xaa Xaa Xaa Xaa Arg Gly Asp Met Phe Cys Xaa Xaa Xaa Xaa Xaa Xaa | 65 | 70 | 75 |
| Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa     | 85 | 90 | 95 |

(2) INFORMATION FOR SEQ ID NO:62:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 96 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 22
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 22 CAN BE TYR OR TRP OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 23..42
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 23-42 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site

(B) LOCATION: 50..69  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 50-69 CAN BE ANY AMINO ACIDS OF CAN BE  
 ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 76  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "CYS AT POSITION 76 CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 77..96  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 77-96 CAN BE ANY AMINO ACIDS OR CAN BE  
 ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:62:

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 1  | 5  | 10 | 15 |
| Xaa | Xaa | Xaa | Xaa | Cys | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 20 | 25 | 30 |    |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Pro | Lys | Lys | Lys | Arg | Lys |     | 35 | 40 | 45 |    |
| Val | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 50 | 55 | 60 |    |
| Xaa | Xaa | Xaa | Xaa | Xaa | Gly | Arg | Gly | Asp | Ser | Pro | Cys | Xaa | Xaa | Xaa | Xaa | Xaa | 65 | 70 | 75 | 80 |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 85 | 90 | 95 |    |

(2) INFORMATION FOR SEQ ID NO:63:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 95 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: not relevant  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 1..20  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACID OR CAN BE

ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 21

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 22

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 22 CAN BE TYR OR TRP OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 23..42

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 23-42 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 50..69

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 50-69 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 75

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 75 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 76..95

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 76-95 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:63:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Pro Lys Lys Lys Arg Lys  
35 40 45

Val Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa Xaa Arg Gly Asp Ser Pro Cys Xaa Xaa Xaa Xaa Xaa

65

70

75

80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
85 90 95

(2) INFORMATION FOR SEQ ID NO:64:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 117 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 28
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 28 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 29..48
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 29-48 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 49
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 49 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 50..69
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 50-69 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site

(B) LOCATION: 70  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITION 70 CAN BE TYR OR TRP OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 71..90  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 71-90 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 98..117  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 98-117 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:64:

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 1   | 5   | 10  | 15 |
| Xaa | Xaa | Xaa | Xaa | Cys | Lys | Phe | Thr | Ile | Val | Phe | Cys | Xaa | Xaa | Xaa | Xaa | Xaa | 20  | 25  | 30  |    |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 35  | 40  | 45  |    |
| Cys | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 50  | 55  | 60  |    |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 65  | 70  | 75  | 80 |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Pro | Lys | Lys | Lys | Arg | Lys |     | 85  | 90  | 95  |    |
| Val | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 100 | 105 | 110 |    |
| Xaa | Xaa | Xaa | Xaa | Xaa |     |     |     |     |     |     |     |     |     |     |     |     | 115 |     |     |    |

(2) INFORMATION FOR SEQ ID NO:65:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 97 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: not relevant  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide



(ix) FEATURE:  
    (A) NAME/KEY: Modified-site  
    (B) LOCATION: 1..20  
    (D) OTHER INFORMATION: /product= "OTHER"  
/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR CAN BE  
ABSENT"

(ix) FEATURE:  
    (A) NAME/KEY: Modified-site  
    (B) LOCATION: 21  
    (D) OTHER INFORMATION: /product= "OTHER"  
/note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:  
    (A) NAME/KEY: Modified-site  
    (B) LOCATION: 28  
    (D) OTHER INFORMATION: /product= "OTHER"  
/note= "CYS AT POSITION 28 CAN BE ABSENT"

(ix) FEATURE:  
    (A) NAME/KEY: Modified-site  
    (B) LOCATION: 29..48  
    (D) OTHER INFORMATION: /product= "OTHER"  
/note= "Xaa AT POSITIONS 29-48 CAN BE ANY AMINO ACIDS OR CAN BE  
ABSENT"

(ix) FEATURE:  
    (A) NAME/KEY: Modified-site  
    (B) LOCATION: 49  
    (D) OTHER INFORMATION: /product= "OTHER"  
/note= "CYS AT POSITION 49 CAN BE ABSENT"

(ix) FEATURE:  
    (A) NAME/KEY: Modified-site  
    (B) LOCATION: 50..69  
    (D) OTHER INFORMATION: /product= "OTHER"  
/note= "Xaa AT POSITIONS 50-69 CAN BE ANY AMINO ACIDS OR CAN BE  
ABSENT"

(ix) FEATURE:  
    (A) NAME/KEY: Modified-site  
    (B) LOCATION: 70  
    (D) OTHER INFORMATION: /product= "OTHER"  
/note= "Xaa AT POSITION 70 CAN BE TYR OR TRP OR CAN BE ABSENT"

(ix) FEATURE:  
    (A) NAME/KEY: Modified-site  
    (B) LOCATION: 78..97  
    (D) OTHER INFORMATION: /product= "OTHER"  
/note= "Xaa AT POSITIONS 78-97 CAN BE ANY AMINO ACIDS OR CAN BE  
ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:65:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

|                                                                 |    |    |    |
|-----------------------------------------------------------------|----|----|----|
| 1                                                               | 5  | 10 | 15 |
| Xaa Xaa Xaa Xaa Cys Lys Phe Thr Ile Val Phe Cys Xaa Xaa Xaa Xaa |    |    |    |
| 20                                                              | 25 | 30 |    |
| Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa |    |    |    |
| 35                                                              | 40 | 45 |    |
| Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa |    |    |    |
| 50                                                              | 55 | 60 |    |
| Xaa Xaa Xaa Xaa Xaa Xaa Pro Lys Lys Lys Arg Lys Val Xaa Xaa Xaa |    |    |    |
| 65                                                              | 70 | 75 | 80 |
| Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa |    |    |    |
| 85                                                              | 90 | 95 |    |
| Xaa                                                             |    |    |    |

(2) INFORMATION FOR SEQ ID NO:66:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 99 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 22
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 22 CAN BE TYR, TRP OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 23..42
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 23-42 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 51..70  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 51-70 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 79  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "CYS AT POSITION 79 CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 80..99  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa FROM 80-99 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:66:

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 1  | 5  | 10 | 15 |
| Xaa | Xaa | Xaa | Xaa | Cys | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 20 | 25 | 30 |    |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Gly | Pro | Lys | Lys | Lys | Arg | 35 | 40 | 45 |    |
| Lys | Val | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 50 | 55 | 60 |    |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Glu | Ile | Leu | Asp | Val | Ser | Pro | Thr | Cys | Xaa | 65 | 70 | 75 | 80 |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 85 | 90 | 95 |    |
| Xaa | Xaa | Xaa |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |

(2) INFORMATION FOR SEQ ID NO:67:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 78 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: not relevant  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site

(B) LOCATION: 1..20  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa FROM 1-20 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 21  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 22  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITION 22 CAN BE TYR, TRP OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 30..49  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 30-49 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 58  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "CYS AT POSITION 58 CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 59..78  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 59-78 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:67:

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 1  | 5  | 10 | 15 |
| Xaa | Xaa | Xaa | Xaa | Cys | Xaa | Pro | Lys | Lys | Lys | Arg | Lys | Val | Xaa | Xaa | Xaa | 20 | 25 | 30 |    |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 35 | 40 | 45 |    |
| Xaa | Glu | Ile | Leu | Asp | Val | Ser | Pro | Thr | Cys | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 50 | 55 | 60 |    |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 65 | 70 | 75 |    |

(2) INFORMATION FOR SEQ ID NO:68:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 77 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 28
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 28 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 29..48
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 29-48 CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 57
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 57 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 58..77
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 58-77 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:68:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Cys Lys Phe Thr Ile Val Phe Cys Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

35

40

45

Glu Ile Leu Asp Val Pro Ser Thr Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 50 55 60

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 65 70 75

(2) INFORMATION FOR SEQ ID NO:69:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 93 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 21 CAN BE TYR, TRP OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 22..41
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 22-41 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 49..68
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 49-68 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 74..93
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 74-93 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:69:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

|                                                                     |    |    |    |
|---------------------------------------------------------------------|----|----|----|
| 1                                                                   | 5  | 10 | 15 |
| Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa     | 20 | 25 | 30 |
| Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Pro Lys Lys Lys Arg Lys Val | 35 | 40 | 45 |
| Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa     | 50 | 55 | 60 |
| Xaa Xaa Xaa Xaa Arg Gly Asp Met Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa     | 65 | 70 | 75 |
| Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa     | 85 | 90 |    |

(2) INFORMATION FOR SEQ ID NO:70:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 94 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 22..41
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 22-41 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 42
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 42 CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site

(B) LOCATION: 50..69  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 50-69 CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 75..94  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 75-94 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:70:

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 1  | 5  | 10 | 15 |
| Xaa | Xaa | Xaa | Xaa | Cys | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 20 | 25 | 30 |    |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Pro | Lys | Lys | Lys | Arg | Lys | 35 | 40 | 45 |    |
| Val | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 50 | 55 | 60 |    |
| Xaa | Xaa | Xaa | Xaa | Xaa | Arg | Gly | Asp | Met | Phe | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 65 | 70 | 75 | 80 |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 85 | 90 |    |    |

(2) INFORMATION FOR SEQ ID NO:71:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 94 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: not relevant  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 1..20  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 21  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa CAN BE TYR, TRP OR CAN BE ABSENT"

(ix) FEATURE:



(A) NAME/KEY: Modified-site  
(B) LOCATION: 22..41  
(D) OTHER INFORMATION: /product= "OTHER"  
/note= "Xaa CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:  
(A) NAME/KEY: Modified-site  
(B) LOCATION: 49..68  
(D) OTHER INFORMATION: /product= "OTHER"  
/note= "Xaa CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:  
(A) NAME/KEY: Modified-site  
(B) LOCATION: 75..94  
(D) OTHER INFORMATION: /product= "OTHER"  
/note= "Xaa CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:71:

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     |     | 30  |     |     |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Pro | Lys | Lys | Lys | Arg | Lys | Val |     |
|     |     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa |
|     |     |     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |
| Xaa | Xaa | Xaa | Xaa | Gly | Arg | Gly | Asp | Ser | Pro | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     |     | 80  |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa |     |     |
|     |     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     |     |

(2) INFORMATION FOR SEQ ID NO:72:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 94 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: not relevant  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:  
(A) NAME/KEY: Modified-site  
(B) LOCATION: 1..20  
(D) OTHER INFORMATION: /product= "OTHER"  
/note= "Xaa CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:  
(A) NAME/KEY: Modified-site

(B) LOCATION: 21  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "CYS CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 22  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa CAN BE TYR, TRP OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 23..42  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 50..69  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 75..94  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:72:

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 1  | 5  | 10 | 15 |
| Xaa | Xaa | Xaa | Xaa | Cys | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 20 | 25 | 30 |    |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Pro | Lys | Lys | Lys | Arg | Lys | 35 | 40 | 45 |    |
| Val | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 50 | 55 | 60 |    |
| Xaa | Xaa | Xaa | Xaa | Xaa | Arg | Gly | Asp | Ser | Pro | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 65 | 70 | 75 | 80 |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | 85 | 90 |    |    |

(2) INFORMATION FOR SEQ ID NO:73:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 116 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: not relevant  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /product= "other"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 27

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 28..47

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 48

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 49..68

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 69

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 69 CAN BE TYR, TRP, OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 70..89

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 97..116

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:73:



/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Active-site

(B) LOCATION: 49

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 50..69

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 70

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE TYR, TRP OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 78..97

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:74:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Cys Lys Phe Thr Ile Val Phe Cys Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
35 40 45

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa Xaa Xaa Pro Lys Lys Lys Arg Lys Val Xaa Xaa Xaa  
65 70 75 80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
85 90 95

Xaa

(2) INFORMATION FOR SEQ ID NO:75:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 97 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 21

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE TYR, TRP OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 22..41

(D) OTHER INFORMATION: /product= "other"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 50..69

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 78..97

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:75:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Pro Lys Lys Lys Arg Lys  
35 40 45

Val Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa Xaa Glu Ile Leu Asp Val Ser Pro Thr Xaa Xaa Xaa  
65 70 75 80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
85 90 95

Xaa

(2) INFORMATION FOR SEQ ID NO:76:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 77 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 22
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE TYR, TRP OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 30..49
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 58..77
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:76:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Cys Xaa Pro Lys Lys Lys Arg Lys Val Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
35 40 45

Xaa Glu Ile Leu Asp Val Ser Pro Thr Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
65 70 75

(2) INFORMATION FOR SEQ ID NO:77:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 75 amino acids
  - (B) TYPE: amino acid
  - (C) STRANDEDNESS: not relevant
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:  
(A) NAME/KEY: Modified-site  
(B) LOCATION: 1..20  
(D) OTHER INFORMATION: /product= "OTHER"  
/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:  
(A) NAME/KEY: Modified-site  
(B) LOCATION: 27  
(D) OTHER INFORMATION: /product= "OTHER"  
/note= "CYS CAN BE ABSENT"

(ix) FEATURE:  
(A) NAME/KEY: Modified-site  
(B) LOCATION: 28..47  
(D) OTHER INFORMATION: /product= "OTHER"  
/note= "Xaa CAN BE ANY AMINO ACID AND CAN BE ABSENT"

(ix) FEATURE:  
(A) NAME/KEY: Modified-site  
(B) LOCATION: 56..75  
(D) OTHER INFORMATION: /product= "OTHER"  
/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:77:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15  
Xaa Xaa Xaa Xaa Lys Phe Thr Ile Val Phe Cys Xaa Xaa Xaa Xaa Xaa  
20 25 30  
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Glu  
35 40 45  
Ile Leu Asp Val Pro Ser Thr Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60  
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
65 70 75



(2) INFORMATION FOR SEQ ID NO:78:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 70 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: circular

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21..40
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 51..70
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:78:

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa |
|     |     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Cys | Glu | Ile | Leu | Asp | Val | Pro | Ser |
|     |     |     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |
| Thr | Cys | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa |
|     | 50  |     |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa |     |     |     |     |     |     |     |     |     |     |
| 65  |     |     |     |     |     |     | 70  |     |     |     |     |     |     |     |     |

(2) INFORMATION FOR SEQ ID NO:79:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 71 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: circular

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 1..20  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa CAN BE ANY CATIONIC AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 21..40  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 52..71  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:79:

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Cys | His | Ala | Ile | Arg | Gly | Asp | Thr |
|     |     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |
| Phe | Ala | Cys | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa |
|     | 50  |     |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |
| Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa | Xaa |     |     |     |     |     |     |     |     |
| 65  |     |     |     |     |     |     | 70  |     |     |     |     |     |     |     |     |

(2) INFORMATION FOR SEQ ID NO:80:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 14 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: not relevant  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 14  
 (D) OTHER INFORMATION: /product= "OTHER"

/note= "G AT POSITION 14 CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:80:

Gly Lys Phe Thr Ile Val Phe Asp Asp Asp Asp Asp Asp Gly  
1 5 10

(2) INFORMATION FOR SEQ ID NO:81:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 28 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:81:

Lys Phe Thr Ile Val Phe Gly Gly Gly Leu Phe Glu Ala Ile Ala Glu  
1 5 10 15

Phe Ile Glu Gly Gly Trp Glu Gly Leu Ile Glu Gly  
20 25

(2) INFORMATION FOR SEQ ID NO:82:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 27 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:82:

Gly Leu Phe Glu Ala Ile Ala Glu Phe Ile Glu Gly Gly Trp Glu Gly  
1 5 10 15

Leu Ile Glu Gly Cys Lys Phe Thr Ile Val Phe  
20 25

(2) INFORMATION FOR SEQ ID NO:83:

- (i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 38 amino acids  
    (B) TYPE: amino acid  
    (C) STRANDEDNESS: not relevant  
    (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:83:

Cys Gly Tyr Gly Gly Gly Gly Gly Gly Gly Pro Lys Lys Lys Arg Lys Val  
1                    5                    10                    15

Gly Gly Gly Leu Phe Glu Ala Ile Ala Glu Phe Ile Glu Gly Gly Trp  
                    20                    25                    30

Glu Gly Leu Ile Glu Gly  
                    35

(2) INFORMATION FOR SEQ ID NO:84:

- (i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 38 amino acids  
    (B) TYPE: amino acid  
    (C) STRANDEDNESS: not relevant  
    (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:84:

Gly Leu Phe Glu Ala Ile Ala Glu Phe Ile Glu Gly Gly Trp Glu Gly  
1                    5                    10                    15

Leu Ile Glu Gly Gly Gly Tyr Gly Gly Gly Gly Gly Gly Pro Lys Lys  
                    20                    25                    30

Lys Arg Lys Val Gly Gly  
                    35

(2) INFORMATION FOR SEQ ID NO:85:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 20 amino acids
  - (B) TYPE: amino acid
  - (C) STRANDEDNESS: not relevant
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:85:

Lys Phe Thr Thr Ile Val Phe Cys Gly Tyr Gly Pro Lys Lys Lys Arg  
1                    5                    10                    15  
  
Lys Val Gly Gly  
                    20

(2) INFORMATION FOR SEQ ID NO:86:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 19 amino acids
  - (B) TYPE: amino acid
  - (C) STRANDEDNESS: not relevant
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:86:

Cys Gly Tyr Gly Pro Lys Lys Lys Arg Lys Val Gly Gly Lys Phe Thr  
1                    5                    10                    15  
  
Ile Val Phe

(2) INFORMATION FOR SEQ ID NO:87:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 30 amino acids
  - (B) TYPE: amino acid
  - (C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 30
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "G AT POSITION 30 CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:87:

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Gly | Lys | Phe | Thr | Ile | Val | Phe | Asp | Asp | Asp | Asp | Asp | Asp | Asp | Gly |     |     |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     |     | 30  |     |     |

(2) INFORMATION FOR SEQ ID NO:88:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 44 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:88:

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys | Lys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Lys | Phe | Thr | Ile | Val | Phe | Gly | Gly | Gly | Leu | Phe | Glu | Ala | Ile | Ala | Glu |     |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Phe | Ile | Glu | Gly | Gly | Trp | Glu | Gly | Leu | Ile | Glu | Gly |     |     |     |     |     |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     |     |     |     |     |     |

(2) INFORMATION FOR SEQ ID NO:89:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 43 amino acids
- (B) TYPE: amino acid

(C) STRANDEDNESS: not relevant  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:89:

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys  
1 5 10 15

Gly Leu Phe Glu Ala Ile Ala Glu Phe Ile Glu Gly Gly Trp Glu Gly  
20 25 30

Leu Ile Glu Gly Cys Lys Phe Thr Ile Val Phe  
35 40

(2) INFORMATION FOR SEQ ID NO:90:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 54 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: not relevant  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:90:

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys  
1 5 10 15

Gly Leu Phe Glu Ala Ile Ala Glu Phe Ile Glu Gly Gly Trp Glu Gly  
20 25 30

Leu Ile Glu Gly Gly Gly Tyr Gly Gly Gly Gly Gly Gly Pro Lys Lys  
35 40 45

Lys Arg Lys Val Gly Gly  
50

(2) INFORMATION FOR SEQ ID NO:91:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 36 amino acids
  - (B) TYPE: amino acid
  - (C) STRANDEDNESS: not relevant
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:91:

```

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys
1 5 10 15
Lys Phe Thr Thr Ile Val Phe Cys Gly Tyr Gly Pro Lys Lys Lys Arg
 20 25 30
Lys Val Gly Gly
 35

```

(2) INFORMATION FOR SEQ ID NO:92:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 37 amino acids
  - (B) TYPE: amino acid
  - (C) STRANDEDNESS: not relevant
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:92:

```

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys
1 5 10 15
Gly Gly Cys Gly Tyr Gly Pro Lys Lys Lys Arg Lys Val Gly Gly Lys
 20 25 30
Phe Thr Ile Val Phe
 35

```

(2) INFORMATION FOR SEQ ID NO:93:

- (i) SEQUENCE CHARACTERISTICS:



- (A) LENGTH: 56 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:93:

```

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys
1 5 10 15
Gly Gly Cys Gly Tyr Gly Gly Gly Gly Gly Gly Gly Pro Lys Lys Lys Arg
 20 25 30
Lys Val Gly Gly Gly Leu Phe Glu Ala Ile Ala Glu Phe Ile Glu Gly
 35 40 45
Gly Trp Glu Gly Leu Ile Glu Gly
 50 55

```

(2) INFORMATION FOR SEQ ID NO:94:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 24 amino acids
  - (B) TYPE: amino acid
  - (C) STRANDEDNESS: not relevant
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:94:

```

Ser Ser Asp Asp Glu Ala Thr Ala Asp Ser Gln His Ser Thr Pro Pro
1 5 10 15
Lys Lys Lys Arg Lys Val Gly Gly
 20

```

(2) INFORMATION FOR SEQ ID NO:95:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 40 amino acids

(B) TYPE: amino acid  
(C) STRANDEDNESS: not relevant  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:95:

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys  
1 5 10 15

Ser Ser Asp Asp Glu Ala Thr Ala Asp Ser Gln His Ser Thr Pro Pro  
20 25 30

Lys Lys Lys Arg Lys Val Gly Gly  
35 40

(2) INFORMATION FOR SEQ ID NO:96:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 25 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: not relevant  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:96:

Met Ser Tyr Tyr His His His His His His Asp Tyr Asp Ile Pro Thr  
1 5 10 15

Thr Glu Asn Leu Tyr Phe Gln Gly Ser  
20 25

(2) INFORMATION FOR SEQ ID NO:97:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 37 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: not relevant  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:97:

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Tyr | Tyr | His | His | His | His | His | His | Asp | Tyr | Asp | Ile | Pro | Thr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Thr | Glu | Asn | Leu | Tyr | Phe | Gln | Gly | Ser | Gly | Tyr | Gly | Pro | Lys | Lys | Lys |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Arg | Lys | Val | Gly | Gly |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     | 35  |     |     |     |     |     |     |     |     |     |     |     |     |

(2) INFORMATION FOR SEQ ID NO:98:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 30 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:98:

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Tyr | Tyr | His | His | His | His | His | His | Asp | Tyr | Asp | Ile | Pro | Thr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Thr | Glu | Asn | Leu | Tyr | Phe | Gln | Ser | Lys | Phe | Thr | Ile | Val | Phe |     |     |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |

(2) INFORMATION FOR SEQ ID NO:99:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 44 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:99:

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Tyr | Tyr | His | His | His | His | His | His | Asp | Tyr | Asp | Ile | Pro | Thr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Thr | Glu | Asn | Leu | Tyr | Phe | Gln | Ser | Gly | Leu | Phe | Glu | Ala | Ile | Ala | Glu |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Phe | Ile | Glu | Gly | Gly | Trp | Glu | Gly | Leu | Ile | Glu | Gly |     |     |     |     |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     |     |     |     |     |

(2) INFORMATION FOR SEQ ID NO:100:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 30 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:100:

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Tyr | Tyr | His | His | His | His | His | His | Asp | Tyr | Asp | Ile | Pro | Thr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Thr | Glu | Asn | Leu | Tyr | Phe | Gln | Ser | Arg | Gly | Asp | Ser | Pro | Cys |     |     |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |

(2) INFORMATION FOR SEQ ID NO:101:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 10 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:101:

Met Ser Tyr Tyr His His His His His His  
1 5 10

(2) INFORMATION FOR SEQ ID NO:102:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 22 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:102:

Met Ser Tyr Tyr His His His His His His Gly Tyr Gly Pro Lys Lys  
1 5 10 15  
Lys Arg Lys Val Gly Gly  
20

(2) INFORMATION FOR SEQ ID NO:103:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 16 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:103:

Met Ser Tyr Tyr His His His His His His Lys Phe Thr Ile Val Phe  
1 5 10 15

(2) INFORMATION FOR SEQ ID NO:104:

- (i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 30 amino acids  
    (B) TYPE: amino acid  
    (C) STRANDEDNESS: not relevant  
    (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:104:

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Tyr | Tyr | His | His | His | His | His | His | Gly | Leu | Phe | Glu | Ala | Ile |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Glu | Phe | Ile | Glu | Gly | Gly | Trp | Glu | Gly | Leu | Ile | Glu | Gly |     |     |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |

(2) INFORMATION FOR SEQ ID NO:105:

- (i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 16 amino acids  
    (B) TYPE: amino acid  
    (C) STRANDEDNESS: not relevant  
    (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:105:

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Tyr | Tyr | His | His | His | His | His | His | Arg | Gly | Asp | Ser | Pro | Cys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |

(2) INFORMATION FOR SEQ ID NO:106:

- (i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 6 amino acids  
    (B) TYPE: amino acid  
    (C) STRANDEDNESS: not relevant  
    (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:106:

His His His His His His  
1 5

(2) INFORMATION FOR SEQ ID NO:107:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 16 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: not relevant  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:107:

Gly Gly Gly Gly Gly Tyr Gly Pro Lys Lys Lys Arg Lys Val Gly Gly  
1 5 10 15

(2) INFORMATION FOR SEQ ID NO:108:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 12 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: not relevant  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:108:

Gly Gly Tyr Gly Pro Lys Lys Lys Arg Lys Val Gly  
1 5 10

(2) INFORMATION FOR SEQ ID NO:109:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 14 amino acids
  - (B) TYPE: amino acid
  - (C) STRANDEDNESS: not relevant
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:109:

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Cys | Gly | Tyr | Gly | Pro | Lys | Lys | Lys | Arg | Lys | Val | Gly | Gly |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     |

(2) INFORMATION FOR SEQ ID NO:110:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 9 amino acids
  - (B) TYPE: amino acid
  - (C) STRANDEDNESS: not relevant
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:110:

|     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Gly | Arg | Gly | Asp | Met | Phe | Gly | Gly |
| 1   |     |     |     | 5   |     |     |     |     |

(2) INFORMATION FOR SEQ ID NO:111:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 22 amino acids
  - (B) TYPE: amino acid
  - (C) STRANDEDNESS: not relevant
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO



(xi) SEQUENCE DESCRIPTION: SEQ ID NO:111:

Gly Tyr Gly Pro Lys Lys Lys Arg Lys Val Gly Gly Gly Gly Gly Arg  
1 5 10 15

Gly Asp Met Phe Gly Gly  
20

(2) INFORMATION FOR SEQ ID NO:112:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:112:

Gly Leu Phe Gly Ala Ile Ala Gly Phe Ile Glu Asn Gly Trp Glu Gly  
1 5 10 15

Met Ile Asp Gly  
20

(2) INFORMATION FOR SEQ ID NO:113:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:113:

Gly Leu Phe Glu Ala Ile Ala Glu Phe Ile Glu Gly Gly Trp Glu Gly  
1 5 10 15

Leu Ile Glu Gly  
20

(2) INFORMATION FOR SEQ ID NO:114:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: not relevant  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:114:

Gly Leu Phe Lys Ala Ile Ala Lys Phe Ile Lys Gly Gly Trp Lys Gly  
1 5 10 15

Leu Ile Lys Gly  
20

(2) INFORMATION FOR SEQ ID NO:115:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 12 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS:  
(D) TOPOLOGY:

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:115:

Gly Tyr Gly Pro Lys Lys Lys Arg Lys Val Gly Gly  
1 5 10

(2) INFORMATION FOR SEQ ID NO:116:

- (i) SEQUENCE CHARACTERISTICS:

91

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:118:

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys  
1 5 10 15

Gly Gly Arg Gly Asp Ser Pro Cys Gly  
20 25

(2) INFORMATION FOR SEQ ID NO:119:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 25 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:119:

Gly Arg Gly Asp Ser Pro Cys Gly Gly Lys Lys Lys Lys Lys Lys Lys  
1 5 10 15

Lys Lys Lys Lys Lys Lys Lys Lys Lys  
20 25

(2) INFORMATION FOR SEQ ID NO:120:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 22 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:120:

Cys Gly Tyr Gly Pro Lys Lys Lys Arg Lys Val Gly Gly Gly Gly Arg  
1 5 10 15

Gly Asp Ser Pro Cys Gly  
20

(2) INFORMATION FOR SEQ ID NO:121:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 7 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: not relevant  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:121:

Asn Leu Ser Val Ser Val Gly  
1 5

(2) INFORMATION FOR SEQ ID NO:122:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 6 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: not relevant  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:122:

Arg Gly Asp Asn Leu Ser  
1 5